

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Liang, Dah-Ben, et al. Confirmation No. 7809  
Application No. : 09/637,764  
Filed : August 10, 2000  
Title : ROCK BIT WITH HARD-FACING MATERIAL INCORPORATING  
SPHERICAL CAST CARBIDE PARTICLES  
  
Grp./Div. : 3672  
Examiner : William P. Neuder  
  
Docket No. : 36912/S61

**DECLARATION OF INEZ CAMERON IN SUPPORT OF  
PETITION UNDER 37 C.F.R. §1.47(a) TO ACCEPT UNEXECUTED DECLARATION  
ON BEHALF OF AN UNCOOPERATIVE JOINT INVENTOR**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Post Office Box 7068  
Pasadena, CA 91109-7068  
October 10, 2011

Commissioner:

I, Inez Cameron, hereby declare that:

1. I am a Patent Administrator for the assignee of the above-referenced reissue patent application, Smith International, Inc. I have personal knowledge of the facts stated herein, unless otherwise noted.

2. On July 27, 2011, I received a communication from our Patent Attorney, Constantine "Gus" Marantidis, a true and accurate copy of which is attached in Appendix A, providing a copy of an Office action mailed on June 8, 2011, on the above-referenced reissue application rejecting the claims as being based upon a defective oath/declaration, as well as copies of the corrected Supplemental Declarations for Reissue Patent Application (individually, the "Supplemental Declaration") to be signed by the joint inventors in response thereto.

**Application No. 09/637,764**

3. On August 1, 2011, I forwarded a copy of the Supplemental Declaration to joint inventor Zhigang Fang (also known as Zak Fang) for his review and signature by FedEx. True and accurate copies of the FedEx Airbill and of the Supplemental Declaration forwarded to Mr. Fang is attached hereto in Appendix B.

4. On August 2, 2011, I followed up with an email to Mr. Fang at his last known email address at [zfang@mines.utah.edu](mailto:zfang@mines.utah.edu). The email came back undeliverable. True and accurate copies of the email and the undeliverable message report received are provided hereto in Appendix C.

5. August 16, 2011, I followed up with another email to Mr. Fang at [zak.fang@utah.edu](mailto:zak.fang@utah.edu) forwarding my August 2, 2011 email. I never received a response, as apparently the email delivery failed. A true and accurate copy of the delivery report is provided hereto in Appendix D.

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6. On September 16, 2011, I left a voicemail for Mr. Fang regarding the status of the Supplemental Declaration.

7. On September 30, 2011, I spoke to Mr. Fang over the telephone. Mr. Fang advised me that he does not have the time to sign the Supplemental Declaration and when he does get the time, he will sign it.

8. Mr. Fang had on a previous occasion refused to sign a Substitute Declaration on the above-referenced application.

9. To this date, I have not received the executed Supplemental Declaration from Mr. Fang.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are

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punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Date

10/11/11

By

*Inez Cameron*

Inez Cameron

MML PAS1141578.1-\* -10/10/11 3:45 PM

# APPENDIX A

July 27, 2011

**Via Email With Confirmation By Mail**  
patentdocket@smith.com

Ms. Lisa K. Holthus  
Division Patent Counsel  
SMITH INTERNATIONAL, INC.  
P.O. Box 60068  
Houston, TX 77073-60068

**Re: U.S. Patent Application Entitled**  
**ROCK BIT WITH HARD-FACING MATERIAL INCORPORATING**  
**SPHERICAL CAST CARBIDE PARTICLES**  
**Application No. 09/637,764; Filed August 10, 2000**  
**CPH Ref. S61:36912; Your Ref. 97-ST13(3)**  
**Response Due Date: September 8, 2011**

Dear Lisa:

Enclosed please find a copy of an Office action issued in the above-referenced application, where the Examiner requested that we file new supplemental oath/declarations. Thus, enclosed please find four new supplemental declarations to be executed by the inventors. Also enclosed is a copy of the last response to the Office action filed on March 3, 2011, to be reviewed by the inventors before signing these enclosed declarations. If any of the inventors refuses to sign, please let me know and I will forward an appropriate declaration for Inez Cameron's signature.

I apologize for the delay on reporting this Office action to you. However, I have repeatedly tried to contact the Examiner and left him multiple voicemails to go over the supplemental oath/declarations with him, and to this day, I can not get a hold of him. Nevertheless, we can file the new supplemental declarations up to **September 8, 2011**, without payment of any extension of time fees. However, if you need an extension, we will absorb the first month of the extension of time fees.

James B. Christie (1904-1959)  
Robert L. Parker (1920-1980)  
C. Russell Hale (1916-2004)

David A. Dillard  
Thomas J. Daly  
Edward R. Schwartz  
John D. Carpenter  
Wesley W. Monroe  
David A. Plumley  
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Mark Garscia  
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Oliver S. Bojracharya  
Lauren E. Schmelder  
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Tiffany A. Parcher  
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Shaun P. Lee  
Ryan M. Swank\*  
Faustina Y. Lee

**Of Counsel**  
Walter G. Maxwell  
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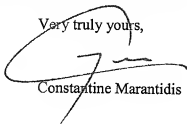
**Patent Agents**  
Nicole Ballew Chang, Ph.D.

\*Admitted only in AZ

Ms. Lisa K. Holthus  
SMITH INTERNATIONAL, INC.  
July 27, 2011  
Page 2

If you have any questions, please do not hesitate to contact me.

Very truly yours,

A handwritten signature in black ink, appearing to read 'C. Marantidis', with a large, sweeping initial 'C'.

Constantine Marantidis

CM/mml

Enclosures: Office action  
Last Amendment Filed  
Supplemental Declaration for Reissue Applications (4)

MML PAS1130357.1 - 07/27/11 2:18 PM



## UNITED STATES PATENT AND TRADEMARK OFFICE

CM

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United States Patent and Trademark Office  
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/637,764	08/10/2000	Dah-Ben Liang	36912/CM/S61	7809

23363 7590 06/08/2011  
CHRISTIE, PARKER & HALE, LLP  
PO BOX 7068  
PASADENA, CA 91109-7068

RECEIVED

JUN 10 2011

CHRISTIE, PARKER, HALE, LLP

EXAMINER

NEUDER, WILLIAM P

ART UNIT

PAPER NUMBER

3672

MAIL DATE

DELIVERY MODE

06/08/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

561  
CASE # 36912 ACTION Final Rejection \*  
REMINDER 12/8/11 DUE DATE 9/8/11  
DEADLINE 12/8/11

\* Also on cal: Renewed Petition Due 7/12/11

**Office Action Summary**

Application No.

09/637,764

Applicant(s)

LIANG ET AL

Examiner

WILLIAM P. NEUDER

Art Unit

3672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 March 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4, 7-28, 31-33, 35-37, 39-41 and 43-67 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-28, 31-33, 35-37, 39-41 and 43-67 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_



## DETAILED ACTION

### *Reissue Applications*

In accordance with 37 CFR 1.175(b)(1), a supplemental reissue oath/declaration under 37 CFR 1.175(b)(1) must be received before this reissue application can be allowed.

Claims 1-4, 7-28, 31-33, 35-37, 39-41 and 43-67 are rejected as being based upon a defective reissue oath/declaration under 35 U.S.C. 251. See 37 CFR 1.175. The nature of the defect is set forth above.

Receipt of an appropriate supplemental oath/declaration under 37 CFR 1.175(b)(1) will overcome this rejection under 35 U.S.C. 251. An example of acceptable language to be used in the supplemental oath/declaration is as follows:

"Every error in the patent which was corrected in the present reissue application, and is not covered by a prior oath/declaration submitted in this application, arose without any deceptive intention on the part of the applicant."

See MPEP § 1414.01. **Conclusion**

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIAM P. NEUDER whose telephone number is (571)272-7032. The examiner can normally be reached on Tuesday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David J. Bagnell can be reached on 571-272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/WILLIAM P NEUDER/  
Primary Examiner  
Art Unit 3672

W.P.N.

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

*I hereby certify that this correspondence is being electronically filed with the United States Patent and Trademark Office on March 3, 2011 at or before 11:59 p.m. Pacific Time under the Rules of 37 CFR § 1.8.*

  
Marian M. Liu

Confirmation No. 7809

Reissue of	:	U.S. Patent No. 5,791,422
Patent Issue Date	:	August 11, 1998
Patentee	:	Dah Ben Liang, et al.
Application No.	:	09/637,764
Filed	:	August 10, 2000
Title	:	ROCK BIT WITH HARDFACING MATERIAL INCORPORATING SPHERICAL CAST CARBIDE PARTICLES
Grp./Div.	:	3672
Examiner	:	NEUDER, William P.
Docket No.	:	36912/S61
Customer No.	:	23363

AMENDMENT FOR REISSUE APPLICATION;  
STATUS OF CLAIMS AND SUPPORT FOR CLAIM CHANGES

**Mail Stop REISSUE**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Post Office Box 7068  
Pasadena, CA 91109-7068  
March 3, 2011

Commissioner:

In response to the Office action mailed on September 3, 2010, please amend the above-identified application as follows:

**Amendments to the Claims** are reflected in the listing of claims which begins on page 2 of this response;

**Remarks/Arguments** begin on page 16 of this response; and

**Support for Claim Changes** begin on pages 19 of this response.

Appln No. 09/637,764  
Amdt date March 3, 2011  
Reply to Office action of September 3, 2010

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Please amend claims 1-4, 9, 12-15, 17, 18, 20, 23, 24, 28, 31-33, 35-37, 39-41, 43-46, 53-55, 58 and 59, cancel claim 29, and add claims 62-67 as follows:

1. (Thrice Amended) A rock bit comprising:  
a body;  
at least one cutting cone rotatably mounted to an end of the body, wherein the cone includes a gage surface at a heel portion of the cone;  
a number of teeth on the cone, the teeth including a plurality of inner row teeth and a plurality of gage row teeth located near a heel of each cone, wherein the teeth include a hardfacing comprising:  
steel in the range of from 20 to 50 percent by weight of the hardfacing; and  
filler in the range of from 50 to 80 percent by weight of the hardfacing,  
the filler comprising in the range of from 10 to 100 percent by weight of the filler spherical cast tungsten carbide particles having [[a]] particle [[size]] sizes between about 16 to 40 mesh and between about 80 and 200 mesh, and tungsten carbide particles selected from the group consisting of spherical cemented, crushed cemented, crushed cast, crushed macrocrystalline, and carburized.
2. (Amended) The rock bit of claim 1 comprising filler in the range of from 60 to 75 percent by weight of the hardfacing.
3. (Amended) The rock bit of claim 1 wherein the filler comprises in the range of from 20 to 50 percent by weight of the filler spherical cast tungsten carbide particles.

4. (Amended) The rock bit of claim 1 wherein the filler comprises in the range of from 40 to 100 percent by weight of the filler spherical cast tungsten carbide particles.
- 5-6. (Canceled)
7. (Twice Amended) The rock bit of claim [[6]] 1 wherein the filler comprises spherical cast tungsten carbide particles having [[a]] particle [[size]] sizes between about 100 to 200 mesh.
8. (Twice Amended) The rock bit of claim [[5]] 1 wherein the filler further comprises macrocrystalline tungsten carbide particles having [[a]] particle [[size]] sizes between about 40 to 80 mesh.
9. (Twice Amended) A rock bit as recited in claim 1 wherein the hardfacing comprises in the range of from 10 to 90 percent by weight of the filler spherical cast tungsten carbide particles having [[a]] particle [[size]] sizes between about 16 to 40 mesh, and further comprises ultra-fine tungsten carbide particles in the range of from 10 to 35 percent by weight of the filler [material], the particles having particle sizes in the range of from about 1 to 50 microns.
10. (Original) A rock bit as recited in claim 9 wherein the ultra-fine tungsten carbide particles are selected from the group consisting of carburized, macrocrystalline, and spherical cast.
11. (Original) A rock bit as recited in claim 9 wherein the steel in the hardfacing is dispersion strengthened by the ultra-fine tungsten carbide particles.
12. (Twice Amended) A rock bit comprising:  
a body;

at least one cutting cone rotatably mounted to an end of the body, wherein the cone includes a gage surface at a heel portion of the cone;

a number of teeth on the cone, the teeth including a plurality of inner row teeth and a plurality of gage row teeth located near a heel of each cone, wherein the teeth include a hardfacing comprising:

steel in the range of from 20 to 50 percent by weight of the hardfacing;

filler in the range of from 50 to 80 percent by weight of the hardfacing,

the filler comprising in the range of from 10 to 100 percent by weight of the filler spherical cast tungsten carbide particles having [[a]] particle [[size]] sizes between about 80 to 200 mesh.

13. (Amended) The rock bit of claim 12 comprising filler in the range of from 60 to 75 percent by weight of the hardfacing.

14. (Amended) The rock bit of claim 12 wherein the filler comprises in the range of from 20 to 50 percent by weight of the filler spherical cast tungsten carbide particles.

15. (Amended) The rock bit of claim 12 wherein the filler comprises in the range of from 40 to 100 percent by weight of the filler spherical cast tungsten carbide particles.

16. (Amended) The rock bit of claim 12 wherein the filler comprises spherical cast tungsten carbide particles having [[a]] particle [[size]] sizes between about 100 to 200 mesh.

17. (Amended) The rock bit of claim 12 wherein the filler comprises in the range of from 10 to 99 percent by weight of the filler spherical cast tungsten carbide particles having [[a]] particle [[size]] sizes between about 80 to 200 mesh, and further comprises spherical cast tungsten carbide particles having [[a]] particle [[size]] sizes between about 16 to 40 mesh.

18. (Twice Amended) The rock bit of claim 12 wherein the filler comprises in the range of from 10 to 99 percent by weight of the filler spherical cast tungsten carbide particles having [[a]] particle [[size]] sizes between about 80 to 200 mesh, and further comprises tungsten carbide particles selected from the group including spherical cemented, crushed cemented, crushed cast and crushed macrocrystalline.
19. (Amended) The rock bit of claim 18 wherein the filler further comprises macrocrystalline tungsten carbide particles having [[a]] particle [[size]] sizes between about 40 to 80 mesh.
20. (Twice Amended) A rock bit as recited in claim 12 wherein the hard-facing comprises in the range of from 10 to 90 percent by weight of the filler spherical cast tungsten carbide particles having [[a]] particle [[size]] sizes between about 80 to 200 mesh, and further comprises ultra-fine tungsten carbide particles in the range of from 10 to 35 percent by weight of the filler [material], the particles having a particle size in the range of from about 1 to 50 microns.
21. (Original) A rock bit as recited in claim 20 wherein the ultra-fine tungsten carbide particles are selected from the group consisting of carburized, macrocrystalline, and spherical cast.
22. (Original) A rock bit as recited in claim 20 wherein the steel in the hardfacing is dispersion strengthened by the ultra-fine tungsten carbide particles.
23. (Twice Amended) A rock bit comprising:  
a body;  
at least one cutting cone rotatably mounted to an end of the body, wherein the cone includes a gage surface at a heel portion of the cone;

a number of teeth on the cone, the teeth including a plurality of inner row teeth and a plurality of gage row teeth located near a heel of each cone, wherein the teeth include a hardfacing comprising:

steel in the range of from 20 to 50 percent by weight of the hardfacing;

filler in the range of from 50 to 80 percent by weight of the hardfacing, the filler comprising in the range of from 10 to 100 percent by weight of the filler spherical cast tungsten carbide particles having [[a]] particle [[size]] sizes between about 16 to 40 mesh and between about 80 to 200 mesh.

24. (Twice Amended) A rock bit as recited in claim 23 wherein the hard-facing comprises in the range of from 10 to 90 percent by weight of the filler spherical cast tungsten carbide particles having [[a]] particle [[size]] sizes between about 16 and 40 mesh and between about 80 to 200 mesh, and further comprises ultra-fine tungsten carbide particles in the range of from 10 to 40 percent by weight of the filler [material], the particles having [[a]] particle [[size]] sizes in the range of from about 1 to 50 microns.

25. (Original) A rock bit as recited in claim 24 wherein the ultra-fine tungsten carbide particles are selected from the group consisting of carburized, macrocrystalline, and spherical cast.

26. (Original) A rock bit as recited in claim 24 wherein the steel in the hardfacing is dispersion strengthened by the ultra-fine tungsten carbide particles.

27. (Amended) The rock bit of claim 23 wherein the filler comprises spherical cast tungsten carbide particles having [[a]] particle [[size]] sizes between about 100 to 200 mesh.

28. (New) A rock bit comprising:  
a body;



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at least one cutting cone rotatably mounted to an end of the body, wherein the cone includes a gage surface at a heel portion of the cone; and

a number of teeth on the cone, the teeth including a plurality of inner row teeth and a plurality of gage row teeth located near a heel of each cone, wherein the teeth include a hardfacing comprising,

steel, and

filler in the range of from 50 to 80 percent by weight of the hardfacing, the filler comprising in the range of from 19 to 100 percent by weight of the filler spherical cast tungsten carbide particles having particle sizes between about 16 mesh to less than 40 mesh.

29. (Canceled)

30. (Canceled)

31. (New) A rock bit as recited in claim 28, the filler further comprising spherical tungsten carbide particles having particle sizes between greater than 80 to 200 mesh.

32. (New) A rock bit comprising:

a body;

at least one cutting cone rotatably mounted to an end of the body, wherein the cone includes a gage surface at a heel portion of the cone; and

a number of teeth on the cone, the teeth including a plurality of inner row teeth and a plurality of gage row teeth located near a heel of each cone, wherein the teeth include a hardfacing comprising,

steel, and

filler in the range of from 50 to 80 percent by weight of the hardfacing, the filler comprising in the range of from 10 to 100 percent by weight of the filler spherical cast tungsten carbide particles having particle sizes between greater than 80 mesh and 200 mesh.

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33. (New) A rock bit as recited in claim 32 wherein the filler comprises in the range of from 19 to 100 percent by weight of the filler spherical cast tungsten carbide particles.
34. (Canceled)
35. (New) A rock bit as recited in claim 32, the filler further comprising spherical tungsten carbide particles having particle sizes between 16 to less than 40 mesh.
36. (New) A rock bit comprising:  
a body;  
at least one cutting cone rotatably mounted to an end of the body, wherein the cone includes a gage surface at a heel portion of the cone; and  
a number of teeth on the cone, the teeth including a plurality of inner row teeth and a plurality of gage row teeth located near a heel of each cone, wherein the teeth include a hardfacing comprising,  
steel, and  
filler in the range of from 50 to 80 percent by weight of the hardfacing, the filler comprising in the range of from 10 to 100 percent by weight of the filler spherical cast tungsten carbide particles having particle sizes between about 16 to 40 mesh and between about 80 to 200 mesh.
37. (New) A rock bit as recited in claim 36 comprising steel in the range of 20 to 50 percent by weight of the hardfacing, and wherein the spherical tungsten carbide particles have particle sizes between about 16 to less than 40 mesh and between greater than 80 to 200 mesh.
38. (Canceled)

39. (New) A rock bit comprising:

a body;

at least one cutting cone rotatably mounted to an end of the body, wherein the cone includes a gage surface at a heel portion of the cone; and

a number of teeth on the cone, the teeth including a plurality of inner row teeth and a plurality of gage row teeth located near a heel of each cone, wherein the teeth include a hardfacing comprising,

steel, and

filler in the range of from 50 to 80 percent by weight of the hardfacing, the filler comprising a first percent by weight of the filler of spherical cemented tungsten carbide particles and a second percent by weight of the filler of spherical cast carbide particles, wherein the first percent is greater than the second percent, wherein the second percent is at least 19 percent.

40. (New) A rock bit as recited in claim 39 wherein the filler comprises in the range of from 19 to 100 percent by weight of the filler spherical cast tungsten carbide.

41. (New) A rock bit as recited in claim 36 wherein the filler comprises in the range of from 19 to 100 percent by weight of the filler spherical cast tungsten carbide.

42. (Canceled)

43. (New) A rock bit as recited in claim 39 wherein the first percent is 70.

44. (New) A rock bit as recited in claim 43 wherein the second percent is 20.

45. (New) A rock bit as recited in claim 44, the filler further comprising 10 percent by weight of the filler carbide particles having a particle size of 30 $\mu$ m.

46. (New) A rock bit as recited in claim 39 wherein the second percent is 20.
47. (New) A rock bit as recited in claim 43 wherein the spherical cemented tungsten carbide particles have particle sizes in the range of 28 to 35 mesh.
48. (New) A rock bit as recited in claim 47 wherein the spherical cast carbide particles have a particle size in the range of 100 to 200 mesh.
49. (New) A rock bit as recited in claim 43 wherein the spherical cast carbide particles have a particle size in the range of 100 to 200 mesh.
50. (New) A rock bit as recited in claim 39 wherein the spherical cemented tungsten carbide particles have particle sizes in the range of 28 to 35 mesh.
51. (New) A rock bit as recited in claim 50 wherein the spherical cast carbide particles have a particle size in the range of 100 to 200 mesh.
52. (New) A rock bit as recited in claim 39 wherein the spherical cast carbide particles have a particle size in the range of 100 to 200 mesh.
53. (New) A rock bit comprising:  
a body;  
at least one cutting cone rotatably mounted to an end of the body, wherein the cone includes a gage surface at a heel portion of the cone; and  
a number of teeth on the cone, the teeth including a plurality of inner row teeth and a plurality of gage row teeth located near a heel of each cone, wherein the teeth include a hardfacing comprising.

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Amdt date March 3, 2011  
Reply to Office action of September 3, 2010

steel, and

filler in the range of from 50 to 80 percent by weight of the hardfacing, the filler comprising a first percent by weight of the filler of spherical cemented tungsten carbide particles and a second percent by weight of the filler spherical cast carbide particles, wherein the second percent is greater than the first percent.

54. (New) A rock bit as recited in claim 53 wherein the first percent is 35 and the second percent is 45.

55. (New) A rock bit as recited in claim 54, the filler further comprising 20 percent by weight of the filler carbide particles having a particle size of 30 $\mu$ m.

56. (New) A rock bit as recited in claim 54 wherein the spherical cemented tungsten carbide particles have particle sizes in the range of 48 to 200 mesh and the spherical cast carbide particles have a particle size in the range of 100 to 200 mesh.

57. (New) A rock bit as recited in claim 53 wherein the spherical cemented tungsten carbide particles have particle sizes in the range of 48 to 200 mesh and the spherical cast carbide particles have a particle size in the range of 100 to 200 mesh.

58. (New) A rock bit as recited in claim 53 wherein the first percent is 40 and the second percent is 50.

59. (New) A rock bit as recited in claim 58, the filler further comprising 10 percent by weight of the filler carbide particles having a particle size of 30 $\mu$ m.

60. (New) A rock bit as recited in claim 58 wherein the spherical cemented tungsten carbide particles have particle sizes in the range of 28 to 35 mesh and the spherical cast carbide particles have a particle size in the range of 100 to 200 mesh.

61. (New) A rock bit as recited in claim 53 wherein the spherical cemented tungsten carbide particles have particle sizes in the range of 28 to 35 mesh and the spherical cast carbide particles have a particle size in the range of 100 to 200 mesh.

62. (New) A rock bit comprising:

a body;

at least one cutting cone rotatably mounted to an end of the body, wherein the cone includes a gage surface at a heel portion of the cone; and

a number of teeth on the cone, the teeth including a plurality of inner row teeth and a plurality of gage row teeth located near a heel of each cone, wherein the teeth include a hardfacing comprising,

steel, and

filler in the range of from 50 to 80 percent by weight of the hardfacing, the filler comprising in the range of from 10 to 100 percent by weight of the filler spherical cast tungsten carbide particles having particle sizes between about 16 mesh to less than 40 mesh and spherical tungsten carbide particles having particle sizes between greater than 80 to 200 mesh.

63. (New) A rock bit comprising:

a body;

at least one cutting cone rotatably mounted to an end of the body, wherein the cone includes a gage surface at a heel portion of the cone; and

a number of teeth on the cone, the teeth including a plurality of inner row teeth and a plurality of gage row teeth located near a heel of each cone, wherein the teeth include a hardfacing comprising,

Appln No. 09/637,764  
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steel, and

filler in the range of from 50 to 80 percent by weight of the hardfacing, the filler comprising 70 percent by weight of the filler of spherical cemented tungsten carbide particles and 20 percent by weight of the filler of spherical cast carbide particles, and 10 percent by weight of the filler carbide particles having a particle size of 30 $\mu$ m.

64. (New) A rock bit comprising:

a body;

at least one cutting cone rotatably mounted to an end of the body, wherein the cone includes a gage surface at a heel portion of the cone; and

a number of teeth on the cone, the teeth including a plurality of inner row teeth and a plurality of gage row teeth located near a heel of each cone, wherein the teeth include a hardfacing comprising,

steel, and

filler in the range of from 50 to 80 percent by weight of the hardfacing, the filler comprising a first percent by weight of the filler of spherical cemented tungsten carbide particles and a second percent by weight of the filler of spherical cast carbide particles, wherein the first percent is greater than the second percent, wherein the first weight percent is 70, wherein the spherical cemented tungsten carbide particles have particle sizes in the range of 28 to 35 mesh, and wherein the spherical cast carbide particles have a particle size in the range of 100 to 200 mesh.

65. (New) A rock bit comprising:

a body;

at least one cutting cone rotatably mounted to an end of the body, wherein the cone includes a gage surface at a heel portion of the cone; and

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Amdt date March 3, 2011  
Reply to Office action of September 3, 2010

a number of teeth on the cone, the teeth including a plurality of inner row teeth and a plurality of gage row teeth located near a heel of each cone, wherein the teeth include a hardfacing comprising,

steel, and

filler in the range of from 50 to 80 percent by weight of the hardfacing, the filler comprising a first percent by weight of the filler of spherical cemented tungsten carbide particles and a second percent by weight of the filler of spherical cast carbide particles, wherein the first percent is greater than the second percent, wherein the first weight percent is 70, and wherein the spherical cast carbide particles have a particle size in the range of 100 to 200 mesh.

66. (New) A rock bit comprising:

a body;

at least one cutting cone rotatably mounted to an end of the body, wherein the cone includes a gage surface at a heel portion of the cone; and

a number of teeth on the cone, the teeth including a plurality of inner row teeth and a plurality of gage row teeth located near a heel of each cone, wherein the teeth include a hardfacing comprising,

steel, and

filler in the range of from 50 to 80 percent by weight of the hardfacing, the filler comprising a first percent by weight of the filler of spherical cemented tungsten carbide particles and a second percent by weight of the filler of spherical cast carbide particles, wherein the first percent is greater than the second percent, wherein the spherical cemented tungsten carbide particles have particle sizes in the range of 28 to 35 mesh, and wherein the spherical cast carbide particles have a particle size in the range of 100 to 200 mesh.

67. (New) A rock bit comprising:

a body;



Appln No. 09/637,764  
Amdt date March 3, 2011  
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at least one cutting cone rotatably mounted to an end of the body, wherein the cone includes a gage surface at a heel portion of the cone; and

a number of teeth on the cone, the teeth including a plurality of inner row teeth and a plurality of gage row teeth located near a heel of each cone, wherein the teeth include a hardfacing comprising

steel, and

filler in the range of from 50 to 80 percent by weight of the hardfacing, the filler comprising a first percent by weight of the filler of spherical cemented tungsten carbide particles and a second percent by weight of the filler of spherical cast carbide particles, wherein the first percent is greater than the second percent, wherein the spherical cast carbide particles have a particle size in the range of 100 to 200 mesh.

Appln No. 09/637,764  
Amdt date March 3, 2011  
Reply to Office action of September 3, 2010

#### REMARKS/ARGUMENTS

The above amendments and these remarks are in response to the Office action mailed on September 3, 2010. Claims 1-4, 9, 12-15, 17, 18, 20, 23, 24, 28, 31-33, 35-37, 39-41, 43-46, 53-55, 58 and 59 have been amended for clarity. Claim 29 has been canceled. Claims 62-67 have been added and are directed to subject matter disclosed in the application as originally filed. No new matter has been added. Claims 1-4, 7-28, 31-33, 35-37, 39-41 and 43-67 are now pending in this application. Reconsideration on the basis of the above amendments and remarks below is kindly requested.

Four Substitute Declarations for Reissue Patent Application from the inventors are being submitted herewith.

The undersigned attorney wishes to thank the Examiner for the telephonic interview on November 23, 2010, where the claims and the teachings of Overstreet et al., U.S. Patent No. 5,492,186, were discussed.

The Examiner rejected claims 40, 44, 58 and 60 under 35 U.S.C. §112, second paragraph, as being indefinite. The Examiner states that claim 44 was a duplicate of claim 29. I believe the Examiner meant to state that claim 40 was a duplicate of claim 29. Claim 40 has been amended to be dependent from claim 39. Similarly, claim 41 has been amended to be dependent from claim 36.

The remaining claims have been amended to clarify whether the weight percent is based on the weight of the hardfacing or the weight of the filler. I believe the Examiner has interpreted that all the weight percents were based on the weight percent of the hardfacing. The claims as now amended should address all the other 35 U.S.C. §112 second paragraph rejections.

The Examiner rejected claims 28, 29, 39, 40, 43, 44, 46, 47 and 50 under 35 U.S.C. §103(a) as being unpatentable over Overstreet et al. Claim 28 requires that the hardfacing

comprises filler in the range of from 50 to 80 percent by weight of the hardfacing, and that the filler comprises in the range of from 19 to 100 percent by weight of the filler spherical cast tungsten carbide particles. Overstreet et al., on column 4, lines 19-26, states,

"The first hardfacing composition 55, contained a mixture of cemented tungsten carbide spheres of 16-30 mesh and particles of crushed cemented tungsten carbide of 20-30 mesh and crushed cast tungsten carbide of 60-80 mesh. The percent by weight of the above three tungsten carbide particles in the rod is respectively 66, 15 and 15%. The rod contained deoxidizer of silicomanganese of about four percent and niobium of less than one percent."

In other words, Overstreet et al. discloses 66% of cemented tungsten carbide spheres of 16 to 30 mesh, 15% particles of crushed cemented tungsten carbide of 20 to 30 mesh, and 15% crushed cast tungsten carbide of 60-80 mesh. Thus, Overstreet et al. discloses only 15%, by weight of the filler, cast tungsten carbide. Overstreet et al. does not disclose, teach or suggest that the filler comprises in a range of from 19% to 100%, by weight of the filler, spherical cast tungsten carbide. Thus, applicant submits that claim 28 is not rendered obvious by Overstreet et al.

Claim 39 requires that the filler has a second percent of spherical cast carbide particles where the second percent is at least 19%. As discussed, this amount of cast tungsten carbide is not disclosed, taught nor suggested by Overstreet et al. Thus, applicant submits that claim 39 is also not rendered obvious by Overstreet et al. Claims 40, 43, 44, 46, 47 and 50 are directly or indirectly dependent from claim 39. As such, applicant submits that these claims 40, 43, 44, 46, 47 and 50 are also not rendered obvious by Overstreet et al. for the same reasons that Overstreet et al. does not render claim 39 obvious, and for the additional limitations that claims 40, 43, 44, 46, 47 and 50 contain therein. For example, claim 43 requires that the first percent, which is the percent by weight of the filler of spherical cemented carbide particles, is 70. Overstreet et al. discloses 66% of cemented tungsten carbide spheres. Claims 44 and 46 require that the second percent is 20. The second percent is the percent by weight of filler of spherical cast tungsten carbide particles. Overstreet et al. discloses use of only 15% by weight of cast tungsten carbide.

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**Amdt date March 3, 2011**  
**Reply to Office action of September 3, 2010**

Thus, applicant submits that claims 44, 44 and 46 are not rendered obvious by Overstreet et al. for these additional reasons.

The Examiner stated that it would have been considered obvious to provide a hardfacing where the hardfacing includes only one of the spherical cast carbides and the crushed carbide in view of the Overstreet et al. teaching that a hardfacing can include only a spherical tungsten carbide or spherical cast carbide and crushed cast carbide. Applicant respectfully disagrees. The present invention provides for an a hardfacing which has improved wear resistance. The limitations in the claims provide for an increase in wear resistance. The hardfacing composition upon which the Examiner has relied upon in Overstreet et al. has a lower level of abrasion resistance and a higher level of fracture resistance (see column 3, line 67 to column 4, line 7). In other words, Overstreet et al. teaches away from the present invention in that the claimed invention provides for an increase in wear resistance, where Overstreet et al. in the cited section appears to teach a decrease in wear or abrasion resistance. As such, applicant submits that one skilled in the art wanting to improve the wear resistance of a hardfacing would not have followed the teachings of Overstreet et al.

The Examiner objected to claims 31, 45, 48, 49, 51 and 52, but stated that these claims would be allowable if rewritten in independent form, including all of the limitations of their base claims and any intervening claims. Claims 28, 45, 48, 49, 51 and 52 have been rewritten in independent, including all of the limitations of their base claims and any intervening claims, as claims 62-67. respectively. Thus, applicant submits that claims 62-67 are also now in condition for allowance.

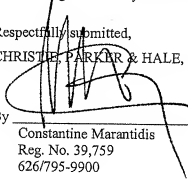
The amendments to all the claims in this application have been made for clarity. In addition, the amendments to claims 28 and 39 find support on column 6, line 66 to column 7, line 13, and the Table on column 7 in the specification of U.S. Patent No. 5,791,422. Support for the amendments to claims 40 and 41 is found on column 6, line 66 to column 7, line 13, and on

**Appln No. 09/637,764**  
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the Table on column 7, in the specification of U.S. Patent No. 5,791,422. The other claims 62-67 find support in previously pending claims 28, 45, 48, 29, 51 and 52, respectively.

The objections and rejections to the claims pending in this application are believed to have been overcome and this application is now believed to be in condition for allowance. Should the Examiner have any remaining questions or concerns about the allowability of this application, the Examiner is kindly requested to call the undersigned attorney to discuss them.

Respectfully submitted,  
CHRISTIE PARKER & HALE, LLP

By   
Constantine Marantidis  
Reg. No. 39,759  
626/795-9900

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Confirmation No. 7809

Reissue of	:	U.S. Patent No. 5,791,422
Patent Issue Date	:	August 11, 1998
Patentee	:	Dah Ben Liang, et al.
Application No.	:	09/637,764
Filed	:	August 10, 2000
Title	:	ROCK BIT WITH HARDFACING MATERIAL INCORPORATING SPHERICAL CAST CARBIDE PARTICLES
Grp./Div.	:	3672
Examiner	:	NEUDER, William P.
Docket No.	:	36912/S61
Customer No.	:	23363

SUPPLEMENTAL DECLARATION FOR REISSUE PATENT APPLICATION

**Mail Stop *REISSUE***

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Post Office Box 7068  
Pasadena, CA 91109-7068  
July 27, 2011

Commissioner:

As a below named inventor, I hereby declare that my residence and post office address is listed below, I am a citizen of the United States of America, and I believe I am an original, first and joint inventor of the subject matter described and claimed in U.S. Patent No. 5,791,422 ("the '422 Patent"), issued on August 11, 1998, for which a reissue patent is sought on the invention entitled ROCK BIT WITH HARDFACING MATERIAL INCORPORATING SPHERICAL CAST CARBIDE PARTICLES. The application for the '422 Patent was filed on March 12, 1997, as Application Serial No. 08/815,745 ("the '745 Application").

I acknowledge the duty to disclose information known to me to be material to the examination of this application in accordance with Title 37, Code of Federal Regulations, Section 1.56(a).

I believe that the '422 Patent is partially inoperative because none of the claims in the '422 Patent are directed to a rock bit comprising a cutting cone having a number of teeth which include a hardfacing comprising spherical cast tungsten carbide particles having particle sizes

**Application No. 09/637,764**

between about 16 mesh to less than 40 mesh without also requiring particle sizes between about 80 and 200 mesh. The novelty of this aspect of my invention was erroneously overlooked, as I did not appreciate the full scope of the invention being claimed at the time the '745 Application was filed and during its prosecution. My failure to recognize the full scope of the invention being claimed was inadvertent as is evidenced by the fact that although this novel feature was described in the specification of the '745 Application, it was not broadly claimed. As a result of this failure, I claimed less than I had a right to claim in the '422 Patent. Every error in the patent which was corrected in the present reissue application, and is not covered by a prior oath/declaration submitted in this application, arose without any deceptive intention on the part of the applicant.

I hereby state that I have reviewed and understand the content of the above-identified application, including the original claims 1-3, 7-27 and any amendment made to such claims, and the added reissue claims 28, 31-33, 35-37, 39-41 and 43-67, and any amendment made to such added claims.

I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, both under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the reissue application or any patent issuing thereon.

Date \_\_\_\_\_

By \_\_\_\_\_

Alysia C. White  
4607 Lake Village Drive  
Fulshear, Texas 77441

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Confirmation No. 7809

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Grp./Div.	:	3672
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Date \_\_\_\_\_

By \_\_\_\_\_

Dah-Ben Liang  
27 Rustic View Court  
The Woodlands, Texas 77381

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Confirmation No. 7809

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Patentee	:	Dah Ben Liang, et al.
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Grp./Div.	:	3672
Examiner	:	NEUDER, William P.
Docket No.	:	36912/S61
Customer No.	:	23363

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**Application No. 09/637,764**

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Date \_\_\_\_\_

By \_\_\_\_\_

Jiinjen Albert Sue  
22 South Dragonwood Place  
The Woodlands, Texas 77381

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Confirmation No. 7809

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Grp./Div.	:	3672
Examiner	:	NEUDER, William P.
Docket No.	:	36912/S61
Customer No.	:	23363

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**Application No. 09/637,764**

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Date \_\_\_\_\_

By \_\_\_\_\_

Zhigang Fang  
6718 South Aqua Vista Place  
Salt Lake City, Utah 84121

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## APPENDIX B

**FedEx** *US Airbill*  
Express

Prefix Tracking Number: **8698 0617 4352**

1 **From** Please print and press hard  
Date: **8-1-11** Sender's FedEx Account Number: **1136-6272-7**  
Sender's Name: **Inez Cameron** Phone: **(281) 443-3370**  
Company: **SMITH INTERNATIONAL/MEDIA SERV**  
Address: **16740 E HARDY RD**

City: **HOUSTON** State: **TX** ZIP: **77032-1125**

2 **Your Internal Billing Reference** **800-7825**

3 **To** Recipient's Name: **Zhigang Fang** Phone: **801, 581-8128**

Company:

Recipient's Address: **6718 S. Agua Vista Cove**

Address: **S**

City: **Salt Lake City** State: **Utah** ZIP: **84121**

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Saturday Delivery NOT available

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Second business day\*  
Saturday Delivery NOT available

☐ **FeStandard Overnight**  
Next business day after noon\*  
Saturday Delivery NOT available

☐ **FeExpress Saver**  
Third business day\*  
Saturday Delivery NOT available

**4b Express Freight Service**

☐ **Fe10day Freight\***  
Ten business days\*  
Saturday Delivery NOT available

☐ **Fe2day Freight**  
Second business day\*  
Saturday Delivery NOT available

☐ **Fe3day Freight**  
Third business day\*  
Saturday Delivery NOT available

**5 Packaging**

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☐ **FedEx Pak\***  
Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak

☐ **FeBox**

☐ **FedEx Tube**

☐ **Other**

**6 Special Handling**

☐ **SATURDAY Delivery**  
FedEx Home Delivery, FedEx Overnight, FedEx Express, and FedEx Priority Overnight

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FedEx Priority Overnight, FedEx Standard Overnight, and FedEx 2Day

☐ **HOLD Saturday at FedEx Location**  
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**7 Payment Bill to:** Enter FedEx Acct. No. or Credit Card No. below.

☐ **Sender**

☐ **Recipient**

☐ **Third Party**

☐ **Credit Card**

☐ **Cash/Check**

**Total Packages** **Total Weight** **Total Declared Value\***

**\$** **.00**

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Someone at recipient's address may sign for delivery

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If no one is available at recipient's address, someone with a valid delivery address may sign for delivery

519

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Confirmation No. 7809

Reissue of	:	U.S. Patent No. 5,791,422
Patent Issue Date	:	August 11, 1998
Patentee	:	Dah Ben Liang, et al.
Application No.	:	09/637,764
Filed	:	August 10, 2000
Title	:	ROCK BIT WITH HARDFACING MATERIAL INCORPORATING SPHERICAL CAST CARBIDE PARTICLES
Grp./Div.	:	3672
Examiner	:	NEUDER, William P.
Docket No.	:	36912/S61
Customer No.	:	23363

SUPPLEMENTAL DECLARATION FOR REISSUE PATENT APPLICATION

**Mail Stop REISSUE**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Post Office Box 7068  
Pasadena, CA 91109-7068  
July 27, 2011

Commissioner:

As a below named inventor, I hereby declare that my residence and post office address is listed below, I am a citizen of the United States of America, and I believe I am an original, first and joint inventor of the subject matter described and claimed in U.S. Patent No. 5,791,422 ("the '422 Patent"), issued on August 11, 1998, for which a reissue patent is sought on the invention entitled ROCK BIT WITH HARDFACING MATERIAL INCORPORATING SPHERICAL CAST CARBIDE PARTICLES. The application for the '422 Patent was filed on March 12, 1997, as Application Serial No. 08/815,745 ("the '745 Application").

I acknowledge the duty to disclose information known to me to be material to the examination of this application in accordance with Title 37, Code of Federal Regulations, Section 1.56(a).

I believe that the '422 Patent is partially inoperative because none of the claims in the '422 Patent are directed to a rock bit comprising a cutting cone having a number of teeth which include a hardfacing comprising spherical cast tungsten carbide particles having particle sizes



**Application No. 09/637,764**

between about 16 mesh to less than 40 mesh without also requiring particle sizes between about 80 and 200 mesh. The novelty of this aspect of my invention was erroneously overlooked, as I did not appreciate the full scope of the invention being claimed at the time the '745 Application was filed and during its prosecution. My failure to recognize the full scope of the invention being claimed was inadvertent as is evidenced by the fact that although this novel feature was described in the specification of the '745 Application, it was not broadly claimed. As a result of this failure, I claimed less than I had a right to claim in the '422 Patent. Every error in the patent which was corrected in the present reissue application, and is not covered by a prior oath/declaration submitted in this application, arose without any deceptive intention on the part of the applicant.

I hereby state that I have reviewed and understand the content of the above-identified application, including the original claims 1-3, 7-27 and any amendment made to such claims, and the added reissue claims 28, 31-33, 35-37, 39-41 and 43-67, and any amendment made to such added claims.

I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, both under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the reissue application or any patent issuing thereon.

Date \_\_\_\_\_

By \_\_\_\_\_

Zhigang Fang  
6718 South Aqua Vista Place  
Salt Lake City, Utah 84121

CM/mml

MML PAS1130363.1-\*07/27/11 3:04 PM

## APPENDIX C

**Constantine Marantidis**

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**From:** Cameron, Inez [icameron@slb.com]  
**Sent:** Tuesday, August 02, 2011 8:07 AM  
**To:** zfang@mines.utah.edu  
**Subject:** declaration for signature  
**Importance:** High

Hello Zak, I sent this to you via Fed Ex with a stamped, self addressed envelope in today's mail. Please sign and return, hopefully this will be the last one! Hope you are well, Inez

---

**From:** Marian M. Liu [mailto:marian.liu@cph.com]  
**Sent:** Wednesday, July 27, 2011 5:08 PM  
**To:** SmithDL-PatentDocket  
**Cc:** Constantine Marantidis  
**Subject:** CPH Ref. S61:36912; Your Ref. 97-ST13(3) - Response Due Date: September 8, 2011  
**Importance:** High

**U.S. Reissue Patent Application Entitled****ROCK BIT WITH HARD-FACING MATERIAL INCORPORATING SPHERICAL  
CAST CARBIDE PARTICLES****Application No. 09/637,764; Filed August 10, 2000****CPH Ref. S61:36912; Your Ref. 97-ST13(3)****Response Due Date: September 8, 2011**

<<36912-Letter.PDF>> <<36912-OA.PDF>> <<36912-Response.PDF>>  
<<36912-AlysiaWhite.pdf>> <<36912-BenLiang.pdf>> <<36912-AlbertSue.pdf>> <<36912-ZhigangFang.pdf>>

Please see attached letter with enclosures from Mr. Constantine Marantidis regarding the above-referenced matter.

If you have any questions, please do not hesitate to contact us.

Thank you,

Marian M. Liu,  
*Assistant to Constantine "Gus" Marantidis, Esq.*  
CHRISTIE, PARKER & HALE, LLP  
350 W. Colorado Blvd., Suite 500 | P. O. Box 7068 | Pasadena, CA 91109-7068  
Tel: (626) 795-9900 | Fax: (626) 577-8800  
<http://www.cph.com>

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## Constantine Marantidis

---

**From:** Mail Delivery System [MAILER-DAEMON@cmes.utah.edu]

**Sent:** Tuesday, August 02, 2011 8:08 AM

**To:** Cameron, Inez

**Subject:** Undelivered Mail Returned to Sender

This is the mail system at host cmes300.mines.utah.edu.

I'm sorry to have to inform you that your message could not be delivered to one or more recipients. It's attached below.

For further assistance, please send mail to <postmaster>

If you do so, please include this problem report. You can delete your own text from the attached returned message.

The mail system

<zfang@mines.utah.edu>: host mail.cmes.utah.edu[155.99.159.5] said: 550 5.1.1  
<zfang@mines.utah.edu>: Recipient address rejected: User unknown in local  
recipient table (in reply to RCPT TO command)

# APPENDIX D

## Constantine Marantidis

---

**From:** Cameron, Inez [icameron@slb.com]  
**Sent:** Tuesday, August 16, 2011 1:13 PM  
**To:** zak.fang@utah.edu  
**Subject:** please sign and return

-----Original Message-----

From: Mail Delivery System [<mailto:MAILER-DAEMON@cmes.utah.edu>]  
Sent: Tuesday, August 02, 2011 10:08 AM  
To: Cameron, Inez  
Subject: Undelivered Mail Returned to Sender

This is the mail system at host cmes300.mines.utah.edu.

I'm sorry to have to inform you that your message could not be delivered to one or more recipients. It's attached below.

For further assistance, please send mail to <postmaster>

If you do so, please include this problem report. You can delete your own text from the attached returned message.

The mail system

<zfang@mines.utah.edu>: host mail.cmes.utah.edu[155.99.159.5] said: 550 5.1.1  
<zfang@mines.utah.edu>: Recipient address rejected: User unknown in local  
recipient table (in reply to RCPT TO command)